SOME QUESTIONS ABOUT THE ARCTIC GAS PIPELINE

Pam:621.644[Mackenzie Valley] CAGPL

POLAR PAM 4269 POLARPAM

Digitized by the Internet Archive
in 2022 with funding from
University of Alberta Libraries

https://archive.org/details/somequestionsabo00cana

Q. What is the purpose of the proposed Arctic Gas pipeline?

A. The purpose is to transport Canadian natural gas from the Mackenzie River Delta area to Canadian markets, and U.S. gas from the North Slope of Alaska to American markets, at the earliest opportunity and the lowest cost.

The alternative to one pipeline to transport gas from both supply areas is two separate systems: one, proposed by Foothills Pipe Lines Ltd., would only move Delta gas; the second, proposed by El Paso Natural Gas, would only move North Slope gas by pipeline to southern Alaska, where it would be liquefied and shipped by tanker to the U.S. west coast to be regasified and pipelined inland.

A Delta-only pipeline requires the discovery of more than twice the gas reserves discovered to date, and thus couldn't be built until the mid-1980s. Once it were feasible, two separate transportation systems to move the Delta and Alaskan gas would result in transportation costing hundreds of millions of dollars per year more than with the Arctic Gas pipeline.

The Arctic Gas system would include 200 miles of pipeline across the northeast corner of Alaska to be owned and operated by Alaskan Arctic Gas Pipeline Company, and 2,300 miles across northern and western Canada to be owned and operated by Canadian Arctic Gas Pipeline Limited. Arctic Gas would connect with other pipelines for final delivery of the Delta gas to Canadian consumers from Vancouver to Quebec, and delivery of the Alaskan gas to U.S. markets from the Pacific to the Atlantic seaboards. At full compressor horsepower, the pipeline would be able to move 4.5 billion cubic feet of gas per day. Additional delivery capacity could be provided by incremental looping (installing short sections of additional pipeline with added compression) as additional gas reserves are developed.

*****

Q. Why does Canada need the Arctic Gas pipeline?

A. The pipeline is required to provide the natural gas supplies needed by eight million Canadian users.

In 1975, the National Energy Board concluded after public hearings that Canada's gas supplies were already inadequate to meet all requirements, and that the shortfall would continue until supplies were made available from the frontier regions. Without frontier supplies, gas shortages experienced by Canadian users could reach serious proportions starting in the early 1980's.

AL INSTITUTE
LIBRARY
Rec'd: APR 27 1976
Order No.:
Price: Free
Acc. No.:

22851

During the next 10 years, the amount of oil and natural gas required for use in Canada will exceed estimated production from the western provinces by an amount worth $20 billion, based on supply and demand projections by the National Energy Board. This shortfall would have to be met by imported crude oil. The projected shortfall assumes no increase in present prices for imported oil; maximum anticipated development of both conventional oil and gas supplies, as well as Athabasca oil sands production; and effective conservation measures to substantially reduce the growth in energy use.

To reduce this shortfall in domestic energy production, Delta gas, transported by the Arctic Gas pipeline, can provide the largest increase in Canadian energy supplies at the lowest cost at the earliest time.

*****

Q. How much will the Arctic Gas pipeline increase Canada's gas supplies?

A. The limited exploration in the Delta-Beaufort Sea area has resulted in the discovery of six to seven trillion cubic feet. Estimates by both industry and government generally place the total potential of the region in a range of 50 to 200 trillion cubic feet.

Presently discovered Delta reserves are adequate to provide gas supplies of nearly one billion cubic feet per day. Planning by Arctic Gas assumes an initial Delta gas supply of 1.25 bcf/d in 1981, increasing to 2.25 bcf/d as additional reserves are developed.

This initial Delta gas supply would displace the need to import oil costing $1 billion per year at present prices, while the projected 2.25 bcf/d would displace $1.6 billion in annual oil imports. In addition, net foreign exchange earnings generated by the charges for transporting the Alaskan gas across Canada would average more than $400 million per year. Thus the displacement of oil imports by Delta gas, combined with revenues for transporting Alaskan gas, could reduce Canada's trade and services deficit by as much as $2 billion per year.

*****

Q. There isn't any Delta gas left for Canadians because U.S. companies have contracted for it.

A. TransCanada PipeLines has contracted for substantial volumes of Delta gas to date and more gas is available for Canadian companies to purchase.

Much of the Delta gas was originally contracted to U.S. companies, but subject to the condition that such contracts were completely dependent upon the Government of Canada deciding whether or not the gas could be declared surplus to Canadian needs. Arctic Gas is convinced that Canada is not, nor will it be in the near future, in an exportable surplus position. Furthermore, all of the U.S. buyers agree that none of the discovered Delta gas is surplus to Canadian needs. Thus, they have not applied to seek government approval of any export of Delta gas. Discussions and negotiations are now in progress between Canadian purchasers and the respective parties to arrange for the sale of this Delta gas in the Canadian market.

An indicator of the Canadian need for gas is the fact that TransCanada PipeLines has advised the National Energy Board that it requires 14 tcf of Delta gas by 1985 to meet the growth in its market. Six to seven tcf has been discovered in the region to date.

*****

Q. How soon could the Arctic Gas pipeline be completed?

A. Assuming that final government authorizations are secured early in 1977, first deliveries of Delta gas through the Arctic Gas pipeline could start in 1981.

*****

Q. What happens if more Delta gas reserves are not discovered as projected?

A. Given continued exploration, the chances of further Delta gas reserves not being discovered are very remote. But even under these conditions, the Arctic Gas pipeline would still generate substantial net benefits for the Canadian economy.

At the initial planned throughput of 1.25 bcf/d of Delta gas and 2.00 bcf/d of North Slope gas, the pipeline will be economically viable and capable of ensuring that Delta gas is competitive. The initial volume of Delta gas supplies would still displace about $1 billion in annual oil imports. The $400 million per year in foreign exchange earnings would still be generated by transporting the Alaskan gas.

The Arctic Gas pipeline represents an opportunity for a major new Canadian export industry -- a transportation industry employing advanced Canadian technology, requiring no export of Canadian resources, and generating a substantial return to the Canadian economy by moving Alaskan gas. This assumes added significance in light of Canada's current deficit in trade and services, amounting to $5 billion in 1975.

Q. What if the amount of gas to be transported from the North Slope of Alaska and the Mackenzie Delta exceeded the pipeline's capacity of 4.5 bcf/d? How would the capacity of the pipeline be shared between Canadian and U.S. gas?

A. The capacity of the pipeline could be increased by incremental looping to accommodate increased volumes available for shipment on a contract basis. The pipeline could be expanded to transport whatever additional volumes of Delta gas are available and required by Canadian consumers, or additional North Slope gas needed by U.S. consumers.

*****

Q. How much will the Arctic Gas pipeline cost?

A. Allowing for cost escalation, the Canadian Arctic Gas facilities, with an initial capacity of 3.25 bcf/d, would cost $6.6 billion. Of this, an estimated $6 billion of capital would be required from investors. Additional expenditures of almost $1 billion would be required to achieve design capacity of 4.5 bcf/d and would be provided largely from operating revenues. Cost of the Alaskan Arctic Gas facilities across Alaska, at full design capacity, would be in the order of $1 billion and would be financed in the U.S.

Of the $6 billion required initially by Canadian Arctic Gas, 25 percent or $1.5 billion would be equity capital. Majority Canadian ownership would thus require an equity investment of some $750 million.

*****

Q. Will Arctic Gas be a truly Canadian project?

A. Yes. The Canadian Arctic Gas pipeline will be one more link in a chain of pipelines, which are majority Canadian-owned and operated, and regulated by the Government of Canada.

Arctic Gas is sponsored, through the research and regulatory phases, by 15 participants, of which eight are Canadian firms (five are majority Canadian-owned). The Canadian-owned firms -- comprising a major portion of Canada's gas transmission and distribution industry -- have agreed to invest a minimum of

$400 million, subject to government approval of the Arctic Gas project and other conditions. Given additional Canadian corporate investments and a public offering of Arctic Gas securities, the company will be majority Canadian-owned.

In addition, Canadian Arctic Gas is Canadian-managed and staffed.

*****

Q. Doesn't the Arctic Gas pipeline represent a very large investment for only a modest increase in Canada's energy supplies?

A. No. The pipeline offers a very large increase in domestic energy supplies, both in absolute terms and in relation to project costs.

To calculate the economic costs and benefits, Arctic Gas assumed that deliveries of Delta gas during the first 22 years of pipeline operations would total some 14 trillion cubic feet, which we believe to be conservative. Based on today's world oil price of $11.50 per barrel, the value of the Delta gas deliveries by the pipeline would amount to approximately $23 billion. Canada would have a net benefit of about $7 billion from the transportation of Alaskan gas. The cost to the Canadian economy for the development, production and transportation of the Delta gas is estimated at about $10 billion, for a net gain to the Canadian economy of some $20 billion.

*****

Q. Why not utilize existing pipeline facilities in southern Canada for the transportation of Delta gas and therby reduce the amount of new pipeline construction?

A. The Arctic Gas pipeline would tie in with all of the major segments of Canada's national grid of gas transmission pipelines. These existing facilities would be used wherever this can be satisfactoril arranged to provide an economic advantage for the transportation of Delta gas. There is, however, little idle capacity on these existing pipeline systems. Therefore, they would have to be expanded.

For example, the volume of both Delta and North Slope gas to be moved across Alberta is such that it will require a totally new pipeline down through the province. The volumes of Delta gas to be moved to Canadian consumers east of Alberta could be handled by partial looping of TransCanada PipeLines system. Similarly, the Vancouver area could be served by a short extension and partial looping of the Westcoast Transmission pipeline.

At a future time when gas production rates in Alberta and British Columbia start declining, available capacity could then be used to move increasing volumes of northern gas delivered by the Arctic Gas pipeline.

*****

Q. Won't the financing and construction result in serious strains on the Canadian economy in terms of availability of capital, inflation and other factors?

A. A study by the Institute for the Quantitative Analysis of Social and Economic Policy at the University of Toronto found that the economic effects of financing, constructing and operating the pipeline are so minor as to not constitute an argument for or against the pipeline.

Investment in other sectors of the Canadian economy would be reduced by an estimated three-quarters of one percent during the initial few years, but would later result in a net increase. There would also be a slightly lower rate of increase in domestic prices, increased national output and incomes, and a net increase in total employment of 120,000 man-year during the first five years.

The most important consideration is the economic effects of the Delta gas provided by the project, combined with the benefits of transporting the Alaskan gas.

*****

Q. How much will the Arctic Gas pipeline increase the cost of natural gas to Canadian consumers?

A. Delta gas will be the lowest-cost source of additional energy available to the Canadian market and will be completely competitive with imported oil.

*****

Q. Instead of building big projects to produce more energy, why don't we cut back on the amount of energy we use?

A. There is unanimous agreement by governments, industry and consumer groups that growth in energy demand must be substantially reduced by sound conservation measures that eliminate energy waste. This will help ease energy supply problems and reduce energy costs, but will not eliminate the need for new supplies. "It is unrealistic to suppose that a growing population in an increasingly industrialized community can actually reduce the total amount of energy consumed," the Ontario Minister of Energy observed in a recent statement. The best that can be achieved, without severe problems in terms of employment and other economic costs, is a reduction in the rate of demand growth.

*****

Q. Why not divert to the Canadian market our present supplies now being exported and thereby defer the need for frontier gas supplies?

A. Such action would result in the U.S. moving its North Slope gas via Alaska and LNG tankers. Canada would lose the revenues associated with moving the Alaskan gas.

Secondly, it would adversely affect trade and economic relations with our major trading partner. Ontario, for example, imports U.S. coal for one-quarter of its electric power production. We should be careful not to jeopardize these and other important export and import opportunities.

Finally, although diverting gas exports would offset our oil imports, it would also mean the loss of foreign exchange revenues from gas sales. Thus, such action would do nothing to improve Canada's projected $20 billion oil and gas trade deficit during the next 10 years. The only way of reducing this deficit is by increasing our domestic energy production.

*****

Q. Why not increase deliveries of Alberta gas to defer the need for gas supplies from the arctic?

A. The need to obtain Delta gas supplies as soon as possible cannot be averted by increased deliveries of Alberta gas.

Deliveries from new Alberta gas fields as a result of continuing exploration will do no more than offset declining production rates from older fields. A significant increase in delivery rates from presently producing Alberta gas fields would require the drilling of more wells, installation of more field compression and construction of new processing plants. This is possible in theory but is not economically feasible.

The necessary investment would make the additional volumes of gas prohibitively expensive. It would require enormous investments which would not increase Canada's energy supplies; it would simply deplete existing supplies at a more rapid rate. This would result in a more rapid production decline a few years later, causing even more severe supply problems. Why invest billions of dollars in a scheme which results in very high-cost gas and does nothing to increase total energy supplies?

*****

Q. Why not build a smaller pipeline -- which would cost less -- to transport only Canadian gas from the Mackenzie Delta?

A. A pipeline to transport only Delta gas could not be undertaken until some 15 to 18 trillion cubic feet of reserves had been discovered in this region, compared with the six to seven tcf found to date. Based on the rate of discoveries to date, this would require many more years of continued exploration, and a further period to build the pipeline. Even then it would result in higher transportation costs because of the smaller volumes that would be delivered, as well as the effects of continued inflation.

Construction of a financially-viable pipeline can be justified now by combining both the Delta and North Slope gas. In addition, deferred construction of a Delta-only pipeline would result in Canada losing the opportunity to generate export earnings by transporting the Alaskan gas.

*****

Q. Instead of building the Arctic Gas pipeline, why not build one from the Arctic Islands where Canada has larger discovered and potential gas reserves than in the Mackenzie Delta area?

A. Canada will require natural gas supplies from the Arctic Islands, but one cannot expect them to be available until sometime after

1985. Based on past results, it will likely require several years of exploration to increase discovered reserves in the Arctic Islands from 12 trillion cubic feet at present to 25 tcf before plans for a pipeline from this area could proceed.

Failure to proceed first with the Arctic Gas pipeline would result in an inability to utilize Delta gas reserves for an unknown number of years; greater transportation costs for Delta gas when it ultimately becomes possible to proceed with a Delta-only pipeline; the loss of export earnings which would result from moving Alaskan gas; and the bunching up of energy projects to the detriment of the Canadian economy.

*****

Q. Will there by adequate public review of the Arctic Gas project to ensure that the ultimate decision is in the best interests of Canada?

A. The applications by Canadian Arctic Gas for approval to construct and operate the proposed pipeline are subject to public review and examination.

Applications by Canadian Arctic Gas were filed in March, 1974 with the National Energy Board, seeking approval to construct and operate the pipeline; and with the Department of Indian Affairs and Northern Development for the use of lands for a pipeline right-of-way across the Yukon and Northwest Territories.

The Mackenzie Valley Pipeline Inquiry, headed by Mr. Justice Thomas Berger, was appointed by DIAND to recommend terms and conditions that might be attached to a pipeline right-of-way across the North. These would relate to protection of the natural environment and the interests of northern residents. Mr. Justice Berger began public hearings throughout the north in March, 1975, to hear any northern residents who wish to express their views or provide information to the Inquiry. The Inquiry will also hold public hearings at major cities across Canada at which any interested persons may present their views. More than one million dollars in government grants have been made available to native, environmental, municipal and public interest organizations to enable them to participate in these proceedings.

The National Energy Board is considering the environmental effects of the pipeline, engineering feasibility and safety, economic viability, financing, social and economic effects, Canadian content, gas supply and demand, and any other factors which it may consider relevant to the public interest. More than 80 organizations, companies, individuals, and government bodies are participating in these proceedings.

Recommendations from the National Energy Board and from the Minister of Indian Affairs and Northern Development, which will be made after considering Mr. Justice Berger's report, will be presented to the federal Cabinet for decision.

*****

Q. How many jobs will the Arctic Gas pipeline provide in Canada?

A. In the order of 8,000 jobs will be provided on the construction of the pipeline during the peak period.

Computer studies of the Canadian economy indicate that the net increase in total Canadian employment as a result of the pipeline will amount to a minimum 120,000 man-years during the first five years of construction and initial operation. The amount would be much greater if this were a period of slack in the Canadian economy.

These employment benefits result directly from construction and operation of the pipeline. Arctic Gas believes that the most important and prolonged employment benefit results not from the pipeline but from the northern gas it would deliver. The transportation of this energy to industrial, commercial and residential consumers would help remove constraints on Canada's economy.

*****

Q. Would Arctic Gas make provisions for training and employment of northern residents?

A. Yes. Long-term employment generated in the north as a result of the pipeline-- including operation of the pipeline, drilling, exploration, production, gas processing and other resultant activities -- is estimated at a minimum of 1,600 man-years annually Because some northern residents are likely to prefer seasonal employment the actual numbers employed will exceed 1,600. More than 1,000 northern residents are already employed either full-time or seasonally in northern petroleum exploration, which is predicated on early construction of a pipeline.

To ensure that northerners will be able to take advantage of these employment opprotunities, Arctic Gas participates with six other pipeline and petroleum companies and the federal and territorial governments in a training program for northerners involving all

phases of pipeline and petroleum operations. This program, called Nortran, currently employs 100 northern residents, and has been underway since 1970. Successful trainees are offered permanent job opportunities with the sponsoring companeis, regardless of whether or not the pipeline is built. This employment opportunity has limited the size of the program but, given approval of the pipeline, the numbers would be expanded substantially.

*****

Q. Shouldn't the Arctic Gas pipeline be deferred until the land claims of northern native peoples have been settled?

A. Following several years of research to prepare their land claims and proposals for settlement, native organizations are now negotiating settlement agreements with the Government of Canada, covering claims in both the Yukon and Northwest Territories. We are hopeful that agreements in principle can be reached before a final government decision is made on the Arctic Gas application.

Arctic Gas has consistently urged fair and prompt settlement of the land claims of northern native peoples. We believe that the terms of such settlements are matters to be negotiated by the native peoples and the Government of Canada.

*****

Q. How will the pipeline affect the way of life, the concerns and the aspirations of northern native peoples?

A. We believe that the pipeline could be important to those northern native people who want to improve their standard of living by joining a wage economy. We are also convinced that, with proper consultation and co-operation, the pipeline will not impair the traditional lifestyle and culture of those native people who decide not to participate.

Concerns expressed by northern native people include protection of the land and its wildlife; maintenance of traditional values, cultural indentity and opportunities to follow traditional pursuits; a desire for better living standards with more and better jobs; greater self-determination; and a wider range of choice and opportunities.

Since the pipeline would be buried, the land revegetated and the gas chilled, the Arctic Gas system represents one of the cleanest and least environmentally disruptive energy projects available to Canadians. This is particularly significant to the North, the Wildlife, the terrain and native lifestyles.

Provision of wage employment to supplement, rather than supplant, hunting, trapping and fishing activities is essential to expand opportunities, achieve greater self-determination and improve living standards. Arctic Gas believes it represents the best opportunity to maintain present exploration jobs and to generate more employment.

Native people see settlements of their land claims as an essential means of correcting economic, social and cultural disadvantages. They are seeking a share of revenues from resource production as one of the terms of settlement. The government has indicated that this provision will be available. But without a pipeline to transport the northern gas, there will be no appreciable resource production revenues to share.

Achieving the best in new ways, while retaining the best from the past, may be difficult and complex. Arctic Gas does not have all the answers. We can and will provide continuing employment and training opportunities for those who so choose. And we will seek to accommodate the diverse aspirations and concerns of northern native people, as these relate to the construction and operation of the pipeline.

*****

Q. How thoroughly has Arctic Gas examined the complex engineering, economic, environmental and social aspects related to construction and operation of the pipeline?

A. Research, design and planning conducted by Arctic Gas represents probably the most comprehensive and thorough program of industrial research ever undertaken in Canada.

Preliminary feasibility studies which led to the Arctic Gas proposal began in 1968. Detailed studies and planning related to engineering, construction, environmental protection, financing, national economic effects and regional socio-economic consideration To conduct this work, Canadian Arctic Gas and its U.S. affiliate, Alaskan Arctic Gas, employs a staff of approximately 175, assisted by substantially more people employed by several dozen consultants. Total expenditures to 1976 amounted to more than $100 million.

Q. What will the Arctic Gas pipeline do to the natural environment and wildlife resources of the north?

A. Five years of environmental research and planning by Arctic Gas, combined with detailed public examination at the regulatory hearings, will result in maximum effort to protect the northern environment during construction and operation of the Arctic Gas pipeline.

Studies by Arctic Gas were undertaken to identify possible areas where construction and operation of the pipeline might involve environmental conflicts, and to find means of avoiding or minimizing such conflicts. Studies of northern wildlife resources and vegetation alone have cost more than $15 million. An additional $30 million of expenditures -- on engineering, design, route and terrain studies, and pipeline facilities in the north-- all relate as much to environmental protection as to design, operating safety and efficiency.

Throughout the Yukon and Northwest Territories, the pipeline would be fully-buried; the surface would be revegetated; and the gas in the pipe would be chilled to protect the permafrost, thereby also protecting the pipeline itself.

We are confident that thorough regulatory review of all the evidence presented by Arctic Gas and other expert witnesses will confirm that the pipeline can be built and operated without permanent or significant damage to the environment or wildlife resources.

*****

Q. Aren't the people of the Northwest Territories opposed to the pipeline?

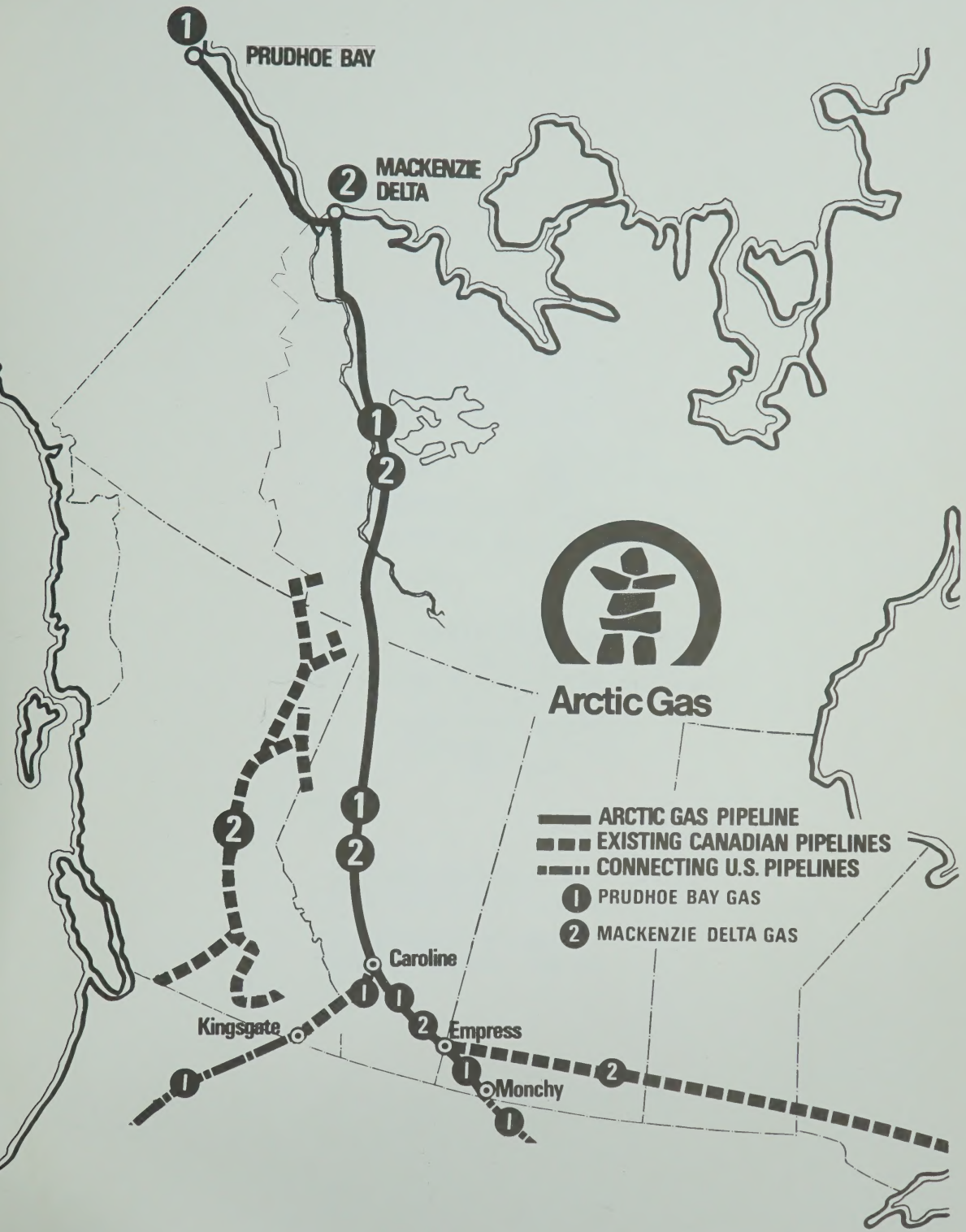
A. No. In February 1976, the Eighth Northwest Territories Council passed two motions, one relating to land claims and the other to the pipeline.

The first moved that "the Minister of Indian and Northern Affairs be requested to provide the services of the special government representative on comprehensive native land claims in Yellowknife beginning April, 1976 to facilitate negotiation and subsequent resolutions from pending native land claims in the Northwest Territories."

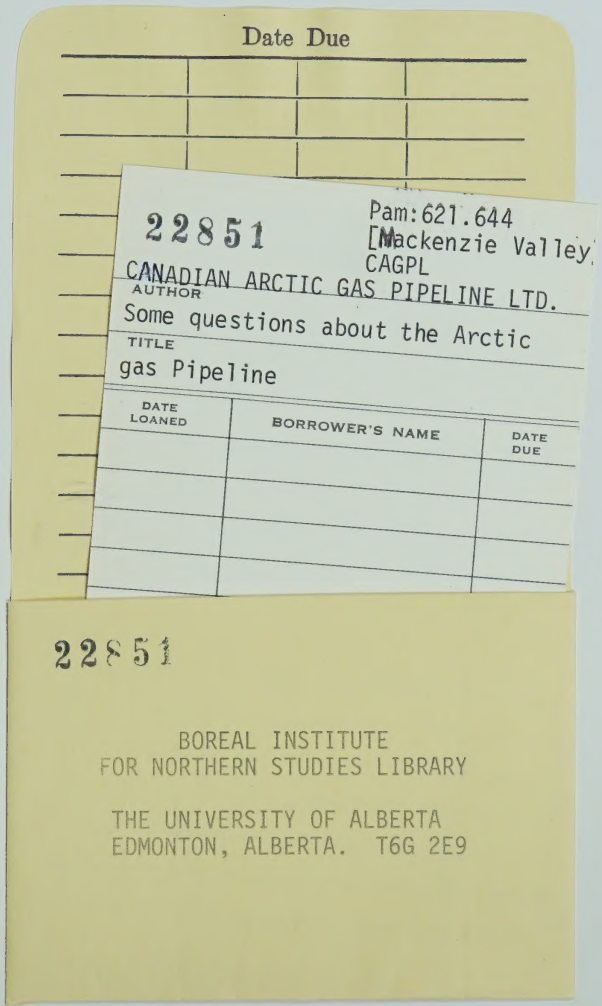
By approving the second motion, the Council formally moved to "indicate its approval of continued petroleum exploration and development activities in the Mackenzie District, Northwest Territories and reaffirm the Seventh Council's support for its approval of the associated pipe or pipeline systems required to market northern petroleum resources discovered and delineated as a result of such exploration. Such approval should be effective after December 31, 1976 and allow for native land claims to be heard."

The two motions are particularly significant since they were approved by the NWT's first fully-elected Council, which took office in 1975 with nine native and six white Councillors.

*****


PRUDHOE BAY
MACKENZIE DELTA
Arctic Gas
ARCTIC GAS PIPELINE
EXISTING CANADIAN PIPELINES
CONNECTING U.S. PIPELINES
PRUDHOE BAY GAS
MACKENZIE DELTA GAS
Caroline
Kingsgate
Empress
Monchy

Mr. W.P. Wilder
Chairman
Canadian Arctic Gas Pipeline Ltd.
Suite 200,
Commerce Court East
Toronto, Ontario
M5L 1E2


Date Due
22851
Pam:621.644
[Mackenzie Valley]
CAGPL
CANADIAN ARCTIC GAS PIPELINE LTD.
AUTHOR
Some questions about the Arctic
TITLE
gas Pipeline
DATE LOANED
BORROWER'S NAME
DATE DUE
22851
BOREAL INSTITUTE
FOR NORTHERN STUDIES LIBRARY
THE UNIVERSITY OF ALBERTA
EDMONTON, ALBERTA. T6G 2E9

University of Alberta Library
0 1620 0335 7124